Having thus described the preferred embodiments, the invention is now claimed to be:

1. A method for classification of areas of an input image in picture, graphics, or fuzzy classes, comprising the following steps:

a) extracting a plurality of features from an input image; and

b) processing two or more extracted features using a soft classifier to classify areas of the input image in either picture, graphics, or fuzzy classes.

2. The method as set forth in claim 1, wherein the plurality of features extracted in step a) include one or more spatial gray-level dependence texture features.

3. The method as set forth in claim 2, wherein the spatial gray-level dependence texture features are based on features extracted from a spatial gray-level dependence matrix representing the input image and wherein said features include one or more of a set comprising a variance feature, a bias feature, a skewness feature, and a fitness feature.

4. The method as set forth in claim 1, wherein the plurality of features extracted in step a) include one or more color discreteness features.

5. The method as set forth in claim 4, wherein the color discreteness features are based on features extracted from color histograms computed from a representation of the input image in a color space and wherein said features include one or more of a set of multiple normalized histograms.

6. The method as set forth in claim 4, wherein the color discreteness features are based on features extracted from color histograms computed from a representation of the input image in CIELUV color space and wherein said features include one or more of a set comprising a normalized

histogram for the luminance color channel (R_L), a normalized histogram for the U color channel (R_U), and a normalized histogram for the V color channel (R_V).

7. The method as set forth in claim 1, wherein the plurality of features extracted in step a) include one or more edge features.

8. The method as set forth in claim 7, wherein the edge features are based on features extracted from an edge map image representing the input image and wherein said features include one or more of a set of features comprising an average number of pixels per connected edge, a quantity of horizontal edges, and a quantity of vertical edges.

9. The method as set forth in claim 1, wherein the soft classifier of step b) is a neural network constructed in a feedforward architecture comprising an input layer, at least one hidden layer, and an output layer and includes a back-propagation algorithm.

10. The method as set forth in claim 9, wherein the input layer of the neural network is comprised of two or more source nodes corresponding to the two or more extracted features.

11. The method as set forth in claim 9, wherein the hidden layer of the neural network is comprised of at least one neuron.

12. The method as set forth in claim 9, wherein the output layer of the neural network is comprised of a first neuron and a second neuron for indicating the result of processing by the neural network and the corresponding classification of the input image between picture, graphics, or fuzzy classes.

13. The method as set forth in claim 12, wherein the first and second neurons each range between a minimum and maximum value based on the

processing of extracted features by the neural network for an area of the input image, wherein the value of the first neuron indicates a level of membership of said area to the graphics class, the maximum value indicating the strongest level of membership, and wherein the value of the second neuron indicates a level of membership of said area to the picture class, the maximum value indicating the strongest level of membership.

14. The method as set forth in claim 13, wherein the value of the first neuron and the value of the second neuron are used to classify the area of the input image in either picture, graphics, or fuzzy classes in accordance with the following rules:

if the first neuron is at its maximum value and the second neuron is at its minimum value, said area is classified in the graphics class;

if the first neuron is at its minimum value and the second neuron is at its maximum value, said area is classified in the picture class;

otherwise, said area is classified in the fuzzy class.

15. The method as set forth in claim 13, wherein the difference between the value of the first neuron and the value of the second neuron is used to classify the area of the input image in either picture or graphics classes in accordance with the following rules:

if the difference is much greater than zero, said area is classified in the graphics class;

if the difference is much less than zero, said area is classified in the picture class; and

if the difference is approximately zero, the result is indeterminate.

16. The method as set forth in claim 15, wherein the difference between the value of the first neuron and the value of the second neuron is used to

determine the confidence level of any classification in accordance with the following rules:

if the difference is much greater than zero and the classification is graphics, there is strong confidence in said classification;

if the difference is much less than zero and the classification is picture, there is strong confidence in said classification; and

if the difference is approximately zero, there is limited confidence in the classification.

17. The method as set forth in claim 1, further including the following step:

c) blending a plurality of image processing functions based on the classification of areas of the input image in picture, graphics, or fuzzy classes to produce an output image associated with the input image.

18. The method as set forth in claim 1, further including the following step:

c) blending a plurality of processed images based on the classification of areas of the input image in picture, graphics, or fuzzy classes to produce an output image associated with the input image.

19. An image processing system for producing an output image associated with an input image based on classification of areas of the input image, comprising:

a feature extractor for extracting a plurality of features from the input image;

a soft classifier for classifying areas of the input image in picture, graphics, or fuzzy classes using a combination of any two or more of the extracted features;

a plurality of image processing modules for providing a plurality of image processing functions; and

a blender for blending the image processing functions, said blending based on the classification of areas of the input image by the soft classifier.

20. The image processing system as set forth in claim 19, wherein the feature extractor extracts a plurality of spatial gray-level dependence texture features, color discreteness features, and/or edge features and the soft classifier uses any combination of two or more of said features to classify areas of the input image.

21. The image processing system as set forth in claim 19, wherein the soft classifier is a neural network.

22. The image processing system as set forth in claim 19, wherein the blender blends the image processing functions of the plurality of image processing modules, thereby providing a blended image process.

23. The image processing system as set forth in claim 18, wherein the blender blends processed images from the plurality of image processing modules, thereby providing a blended output image.

24. A method for evaluating the confidence level of the classification of an image, comprising the following steps:

a) extracting a plurality of features from an input image;

b) classifying the input image in picture or graphics classes using at least one of the extracted features; and

c) determining the confidence level of the classification using a combination of two or more of the extracted features.